REMARKS

Claims 1 through 3 and 5 through 15 are now pending in this application. In response to the Office Action dated October 4, 2003, claims 2 and 3 have been amended. Care has been exercised to avoid the introduction of new matter. Favorable reconsideration of the application as now amended is respectfully solicited.

Claims 5 and 8 have been allowed. Claims 2 and 3 were held to be allowable subject to their presentation in appropriate independent form. In response, claims 2 and 3 each have been amended to independent form to include all recitation of former parent claim 1. Allowance of claims 2 and 3 is, therefore, respectfully solicited.

Claims 1, 6, 9, 12 and 13 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. patent 6,307,984 (Watanabe). Claims 7 and 10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe. Independent claim 1 recites, *inter alia*, the following:

> a first optical fiber having a composition in its optical region,
>
> a second optical fiber having another composition in its optical region, and
>
> . . . wherein said first and second optical fibers are connected in series and have different wavelength ranges for amplification . . . .

Independent claims 12 and 13 recite:

> a plurality of optical fibers which differ from each other with respect to the composition of their respective optical regions and through which signal lights are amplified by stimulated Raman scattering, wherein said plurality of optical fibers have different wavelength ranges for amplification . . . .

The Office Action discusses Watanabe at pages 2 through 5, specifically referring to columns 23 and 24. Watanabe states in those columns the following: "In order to increase the optical intensity along a transmission line which exhibits a loss, the effective core sectional area A_{eff} of the fiber should be decreased gradually along the longitudinal direction of the fiber (column 23, lines 8-11)." "In order to increase the nonlinear coefficient γ defined by the expression (6), it is effective to increase the nonlinear refractive index n_2 or decrease the mode field diameter (MFD) which corresponds to the effective core sectional area A_{eff}. In order to increase the nonlinear refractive index n_2, for example, the clad should be doped with GeO_2 of a high density (Column 24, lines 34-41). Watanabe, however, does not disclose or suggest a series of concatenated optical fiber sections having different composition, as required by independent claims 1, 12 and 13. Moreover, even if two fibers have different composition, there is no teaching or basis to conclude that Raman amplification in two different wavelength bands must exist.

It is submitted, therefore, that claims 1, 6, 7, 9, 10, 12 and 13 are patentably distinguishable. Withdrawal of the rejection of these claims is respectfully solicited.

Claim 11 has been rejected under 35 U.S.C. § 103 as being unpatentable over Watanabe in view of Akasaka, of record. Akasaka has been relied upon for teaching a Raman fiber amplifier comprising a control unit. However, claim 11 also requires similar recitation to the claim phrases quoted above, *i.e.*,:

> a plurality of optical fibers which differ from each other with respect to the composition of their respective optical regions and through which signal lights are amplified by stimulated Raman scattering, wherein said plurality of optical fibers have different wavelength ranges for amplification . . . .

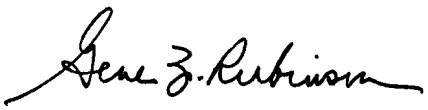
Neither Watanabe nor Akasaka discloses or suggests these claim requirements. It is submitted, therefore, that claim 11 is patentably distinguishable and that the rejection thereof should be withdrawn.

Claims 14 and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe in view of U.S. patent 4,699,452 (Mollenauer). Mollenauer has been relied upon for teaching inputting a first pump light into a first fiber section and inputting a second pump light into a second fiber section. Claims 14 and 15 are each dependent from claim 1 and thus require the recited subject matter of claim 1 quoted above. Mollenauer has been applied in the Office Action solely with respect to the additional features recited in the dependent claims. As neither Watanabe nor Mollenauer teach or suggest the requirements of claim 1, as discussed above, it is submitted that these claims are patentably distinguishable. Withdrawal of the rejection of claims 14 and 15 is respectfully solicited.

Accordingly, allowance of the application is respectfully solicited. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT, WILL & EMERY



Gene Z. Rubinson
Registration No. 33,351

600 13th Street, N.W.
Washington, DC 20005-3096
(202) 756-8000 GZR:lnm
Facsimile: (202) 756-8087
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